

WHAT IS CLAIMED IS:

- 5 1. A stocker comprising:  
a first sealing member;  
atmosphere control means for controlling an  
internal atmosphere of said first sealing member to a  
first atmosphere; and  
transfer means for transporting an object to be  
stocked to an exposure apparatus or receiving the object  
to be stocked from the exposure apparatus without  
10 exposing the objects to be stocked to an external  
atmosphere of said first sealing member,  
wherein at least one object to be stocked is  
stocked in said first sealing member.
- 15 2. The stocker according to claim 1, wherein  
the stocker further comprises a load-lock chamber,  
and  
the object to be stocked is transported to outside  
of said first sealing member or received from the  
outside of said first sealing member via said load-lock  
20 chamber.
3. The stocker according to claim 1, further  
comprising atmosphere measurement means for measuring  
the internal atmosphere of said first sealing member.
- 25 4. The stocker according to claim 3, wherein said  
atmosphere measurement means includes an oxygen analyzer.
5. The stocker according to claim 1, wherein the  
first atmosphere has an oxygen concentration of not more

than 5 ppm at its steady state.

6. The stocker according to claim 1, wherein the first atmosphere includes an inert gas atmosphere.

7. The stocker according to claim 6, wherein the inert gas atmosphere includes a nitrogen gas atmosphere, a helium gas atmosphere, or a gas mixture atmosphere of nitrogen gas and helium gas.

8. The stocker according to claim 1, further comprising means for storing said at least one object to be stocked, in a second sealing member inside said first sealing member, and

the object to be stocked is transported to the outside of said first sealing member while stored in said second sealing member.

9. The stocker according to claim 1, wherein the stocker is connected to the exposure apparatus via a highly airtight transfer path.

10. The stocker according to claim 1, wherein said atmosphere control means has gas injection means.

11. The stocker according to claim 1, wherein said atmosphere control means has evacuation means.

12. The stocker according to claim 1, wherein the exposure apparatus uses an F<sub>2</sub> excimer laser as an exposure light source.

13. The stocker according to claim 1, further comprising transfer means, arranged in a semiconductor manufacturing line, for transporting the object to be

stocked to manufacturing apparatuses for various processes or receiving the object to be stocked from the manufacturing apparatuses for various processes.

14. The stocker according to claim 1, wherein the  
5 object to be stocked includes a reticle or mask.

15. The stocker according to claim 14, further comprising a reticle changer for supplying a desired reticle or mask to the exposure apparatus.

16. The stocker according to claim 1, wherein the  
10 object to be stocked includes a wafer.

17. An exposure apparatus comprising a stocker,  
said stocker having:

a first sealing member;

15 atmosphere control means for controlling an  
internal atmosphere of said first sealing member to a first atmosphere; and

transfer means for transporting an object to be stocked to the exposure apparatus or receiving the object to be stocked from the exposure apparatus without  
20 exposing the object to be stocked to an external atmosphere of said first sealing member,

wherein at least one object to be stocked is stocked in said first sealing member.

18. A stocker comprising:

25 a first sealing member;

first atmosphere control means for controlling an internal atmosphere of said first sealing member to a

first atmosphere;

a second sealing member for storing at least one object to be stocked;

second atmosphere control means for controlling an  
5 internal atmosphere of said second sealing member to a second atmosphere; and

transfer means for transporting the object to be stocked to an exposure apparatus or receiving the object to be stocked from the exposure apparatus while the  
10 object to be stocked is stored in said second sealing member without being exposed to an external atmosphere of said first sealing member,

wherein at least one second sealing member which stores the at least one object to be stocked is stocked  
15 in said first sealing member.

19. The stocker according to claim 18, wherein the stocker further comprises a load-lock chamber, and

the object to be stocked is transported to outside  
20 of said first sealing member or received from the outside of said first sealing member via said load-lock chamber while stored in said second sealing member.

20. The stocker according to claim 18, further comprising atmosphere measurement means for measuring  
25 the internal atmospheres of said first and second sealing members.

21. The stocker according to claim 20, wherein said

atmosphere measurement means includes an oxygen analyzer.

22. The stocker according to claim 18, wherein  
the first atmosphere has an oxygen concentration  
of not more than 50 ppm at its steady state, and

5           the second atmosphere has an oxygen concentration  
of not more than 5 ppm at its steady state.

23. The stocker according to claim 18, wherein the first and second atmospheres include an inert gas atmosphere.

24. The stocker according to claim 23, wherein the inert gas atmosphere includes a nitrogen gas atmosphere, a helium gas atmosphere, or a gas mixture atmosphere of nitrogen gas and helium gas.

25. The stocker according to claim 18, wherein the  
15 stocker is connected to the exposure apparatus via a  
highly airtight transfer path.

26. The stocker according to claim 18, wherein said first and second atmosphere control means have gas injection means.

20 27. The stocker according to claim 18, wherein said  
first and second atmosphere control means have  
evacuation means.

28. The stocker according to claim 18, wherein the exposure apparatus uses an F<sub>2</sub> excimer laser as an exposure light source.

29. The stocker according to claim 18, further comprising transfer means, arranged in a semiconductor

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manufacturing line, for transporting the object to be stocked to manufacturing apparatuses for various processes or receiving the object to be stocked from the manufacturing apparatuses for various processes.

5 30. The stocker according to claim 18, wherein the object to be stocked includes a reticle or mask.

31. The stocker according to claim 30, further comprising a reticle changer for supplying a desired reticle or mask to the exposure apparatus.

10 32. The stocker according to claim 18, wherein the object to be stocked includes a wafer.

33. An exposure apparatus comprising a stocker, said stocker having:

a first sealing member;

15 first atmosphere control means for controlling an internal atmosphere of said first sealing member to a first atmosphere;

a second sealing member for storing at least one object to be stocked;

20 second atmosphere control means for controlling an internal atmosphere of said second sealing member to a second atmosphere; and

transfer means for transporting the object to be stocked to the exposure apparatus or receiving the

25 object to be stocked from the exposure apparatus while the object to be stocked is stored in said second sealing member without being exposed to an external

atmosphere of said first sealing member,

wherein at least one second sealing member which stores said at least one object to be stocked is stocked in said first sealing member.

5 34. A semiconductor device manufacturing method  
comprising the steps of:

installing manufacturing apparatuses for various processes including an exposure apparatus in a semiconductor manufacturing factory; and

10 manufacturing a semiconductor device in a  
plurality of processes by using the manufacturing  
apparatuses,

wherein the exposure apparatus having a stocker,  
the stocker having:

15           a first sealing member;

first atmosphere control means for controlling an internal atmosphere of the first sealing member to a first atmosphere;

a second sealing member for storing at least one  
20 object to be stocked;

second atmosphere control means for controlling an internal atmosphere of the second sealing member to a second atmosphere; and

transfer means for transporting the object to be  
25 stocked to the exposure apparatus or receiving the  
object to be stocked from the exposure apparatus while  
the object to be stocked is stored in the second sealing

member without being exposed to an external atmosphere  
of the first sealing member,

wherein at least one second sealing member which  
stores the at least one object to be stocked is stocked  
5 in the first sealing member.

35. The method according to claim 34, further  
comprising the steps of:

connecting the manufacturing apparatuses by a  
local area network; and

10 communicating information about at least one of  
the manufacturing apparatuses between the local area  
network and an external network of the semiconductor  
manufacturing factory.

36. The method according to claim 35, wherein,  
15 maintenance information of the manufacturing apparatus  
is acquired by data communication by accessing via the  
external network a database provided by a vendor or user  
of the exposure apparatus, or production is managed by  
data communication via the external network with a  
20 semiconductor manufacturing factory other than the  
semiconductor manufacturing factory.

37. A semiconductor manufacturing factory comprising:  
manufacturing apparatuses for various processes  
including an exposure apparatus;

25 a local area network for connecting said  
manufacturing apparatuses; and

a gateway for allowing the local area network to



access an external network of said factory,  
 wherein information about at least one of said  
 manufacturing apparatuses is communicated,

the exposure apparatus has a stocker,  
 5 the stocker has:  
 a first sealing member;  
 first atmosphere control means for controlling an  
 internal atmosphere of said first sealing member to a  
 first atmosphere;

10 a second sealing member for storing at least one  
 object to be stocked;

second atmosphere control means for controlling an  
 internal atmosphere of said second sealing member to a  
 second atmosphere; and

15 transfer means for transporting the object to be  
 stocked to the exposure apparatus or receiving the  
 object to be stocked from the exposure apparatus while  
 the object to be stocked is stored in said second  
 sealing member without being exposed to an external  
 20 atmosphere of said first sealing member, and

at least one second sealing member which stores  
 the at least one object to be stocked is stocked in said  
 first sealing member.

38. A maintenance method for an exposure apparatus  
 25 installed in a semiconductor manufacturing factory,  
 comprising the steps of:

causing a vendor or user of the exposure apparatus



